

2.0 AFFECTED ENVIRONMENT

In coordination with federal, state, and local agencies, environmental technical reports were prepared prior to the preparation of this DEIS. The scope of the proposed project and the potential for a wide range of project-related issues, necessitated a level of analysis which would yield sufficient detail to highlight the issues associated with the various environmental disciplines in the project area and surrounding environs. These technical reports provide detailed supporting documentation for the discussions presented in this DEIS.

Much of the information presented in this DEIS was derived from the information developed in the technical reports. As with the DEIS, these technical reports were prepared for the Federal Highway Administration (FHWA) by the Department for the proposed project in compliance with the National Environmental Policy Act of 1970, as amended, and the implementing regulations and guidelines as set forth by the Department and the FHWA. These reports were also prepared in conjunction with the Illinois Natural History Survey and the University of Illinois at Urbana, Department of Anthropology.

Technical reports were prepared for Ecological Resources, Agricultural Resources, Air Quality, Noise, Visual Resources and Hydrology, since these topics were deemed important by the Department based on engineering and environmental factors and by the public. These reports were provided to the appropriate state and federal agencies for review and are available for public review at the Department's offices in Dixon and Springfield. Copies of the technical reports were also provided to the Work Groups and Advisory Council for their use and to support their evaluations as part of the public participation and involvement program. The results of the technical reports were presented to the Work Groups as a component of and as input into the reports prepared by the Advisory Council and ultimately, their recommendation of a preferred alternate.

Individual studies for cultural resources were conducted by Heritage Research, Inc. and the University of Illinois, Department of Anthropology. These field reports and studies identified the historic architectural, historic archaeological and prehistoric archaeological resources within the project area and the potential effects that the proposed project may have on these resources.

2.1 Project Area

The general project area is comprised of the two county area of northwest Illinois which includes Jo Daviess and Stephenson Counties. The project area extends from just west of Illinois Route 84, northwest of the city of Galena to approximately 47 miles to the east near Bolton Road, northwest of the city of Freeport. The project area is primarily agricultural, with pockets of residential and commercial development. Concentrated areas of residential and commercial development are located within the corporate limits of Galena, the Galena Territory, Freeport and the villages of Elizabeth, Stockton and Lena. Although the project area is agriculture in nature, the area is experiencing increased patronage to the areas recreational facilities and residential communities which serve as second homes for an increasing number of residents from the greater Chicago Metropolitan Area.



2.2 Transportation Facilities

2.2.1 Roadway Facilities

2.2.1.1 Existing Roadway Facilities

U.S. Route 20 provides interstate service to the motoring public. Two transcontinental through routes are parallel and in proximity to U.S. Route 20, namely, Interstate Route 80, generally to the south, and Interstate Route 90, generally to the north. However, at Rockford, Interstate 90 deviates from its general east-west orientation and proceeds north through Madison into central Wisconsin, at which point it returns to an east-west orientation. As a result, U.S. Route 20 in Jo Daviess and Stephenson Counties is separated from Interstate Route 90 by approximately 100 miles. Meanwhile, Interstate Route 80 is approximately 75 miles south of this area. The nearest interstate highway to this area is Interstate Route 88, approximately 50 miles south of Stockton, an alternate route to I-80, and largely a tollway, for travel between the Quad Cities and Chicago. Therefore, U.S. Route 20 is the only major east-west roadway that serves Jo Daviess and Stephenson Counties.

Currently, in Jo Daviess County there are only two north-south state marked routes which would intersect with an east-west corridor. These routes are Illinois Route 84 and Route 78. Route 84, the Great River Road, is primarily a recreational route and its intersection with U.S. Route 20 northwest of Galena forms the western terminus of the project area. All other north-south highway intersections are with County or Township systems, which tend to be gravel roads with present ADT volumes of 150 or less. In Stephenson County U.S. Route 20 crosses Illinois Route 73 approximately one mile south of Lena, nearly parallel to the section lines, until crossing the Illinois Central Railroad and Galena Road southeast of Lena. Northwest of Freeport, the roadway splits into U.S. Route 20 (Freeport Bypass) circumventing the northern and eastern portions of Freeport, and into Business Route 20 which follows the old roadbed into and through the city of Freeport. The local road network in both Jo Daviess and Stephenson County generally follows the topography of the area. In the western portions of Jo Daviess County the roads more or less follow the meandering streams in the hollows or the crest of the ridge separating the hollows. This translates to a roadway network of irregular alignments and sporadic roadway intersections. In the eastern portion of Jo Daviess and in Stephenson County where the terrain is less rolling, the roadways are more or less parallel or perpendicular to U.S. Route 20. However, these roadways are generally not continuous and provide service to a relatively small localized area.

2.2.1.2 Proposed Roadway Facilities

There has been a formal interest in modernizing U.S. Route 20 in northwestern Illinois since the interstate system took form. The Department is currently studying the upgrade of U.S. Route 20 from East Dubuque to Illinois Route 84 from a four-lane expressway to a freeway. At the eastern terminus of the project area, the Freeport Bypass is currently a two-lane roadway. The Department has plans to complete the staged construction of the bypass to a four-lane freeway. Resurfacing, rehabilitation, and restoration (3R) type improvements are ongoing along U.S. Route 20, and the Department will continue to do so. No other major improvements are proposed in the project area.

2.2.2 Other Transportation Facilities

One railroad line operates through the area as a freight line. Amtrak had discontinued service on this line in 1981 and there are no plans to add passenger service to the rail line in the future.



Bus service is limited to the interstate commercial buses using U.S. Route 20. Two regional airports exist near the project area in Dubuque and Rockford.

Other facilities include the Dixon-Galena Trail, which runs from Pleasant Valley through Elizabeth to Galena. This trail is listed on the Illinois Department of Conservation's 1983 Inventory of Historic Landmarks.

2.2.3 Bikeways

Within the project area, the Illinois Department of Natural Resources (IDNR) and the Office of Conservation have designated the Grand Illinois Trail as a bikeway.

In Stephenson County, the *Stephenson County and Freeport Area Greenways and Trails Plan* serves as a guide to all local jurisdictions for the long term protection of open spaces as well as plant and animal species that are unique to the region. The plan sets forth the importance of cooperation between the private sector and local, regional, state and federal organizations in the future development of greenways in Stephenson County. Essentially, the plan assists local and regional organizations in implementing greenway and trail projects. It identifies areas where buffers can be created to preserve land for the propagation of plants and animals; it identifies suitable locations for convenient public trails and places for exercise and the leisurely enjoyment of the outdoors; it establishes regional open space and natural area preservation priorities; and it serves to link Stephenson County and the Freeport area to a large greenway and trail network.

The latest *Greenways and Trails Plan*, dated November 2000, incorporates the alignments of both the Freeway and Expressway Alternates. Within proximity of both alternates, the county is proposing a secondary trail to extend along Illinois Route 73 between Galena Road and Dublin Road. This trail would run south from a proposed Regional Trail and become part of the Le-Walk-A-Na Trail which would link Le-Aqua-Na State Park with the Yellow Creek Regional Trail. The trail would be located along Illinois Route 73 and would cross both the Freeway and Expressway Alternates at grade-separated interchanges. In this regard, the proposed project is considered as being consistent with the intent and objectives of the Freeport and Stephenson County *Greenways and Trails Plan*.

According to the *Jo Daviess Comprehensive Plan*, the county has no park district serving the unincorporated areas. In addition, the county does not have an open space and recreation plan as a component of the *Comprehensive Plan*. As a result, the county has not identified specific bikeways or trails within its current plan. However, the *Comprehensive Plan* has identified environmentally sensitive corridors which could serve as potential locations for either bikeways or trails. One of the goals of the County *Comprehensive Plan* is to develop a county-wide plan which would examine the potential (short- and long-range) for the integrated use and development of parks, recreational and natural areas, historic sites, tourist amenities, trails, environmental corridors with communities and tourist demand⁴. The *Comprehensive Plan* also states that the county should identify areas appropriate for public access and that the county should pursue a Green Ways Plan in cooperation with IDNR's Green Ways Planning Program.

The most significant trail project in Jo Daviess County is the Grand Illinois Trail which is being planned by the IDNR. This trail, when completed, will connect sections already in place in Carroll and Stephenson Counties and will ultimately become part of a state-wide trail system. According to local County planning officials, the proposed project is considered to be consistent with the goals and objectives of the *Jo Daviess Comprehensive Plan* for land use and

⁴ Jo Daviess County Comprehensive Plan, Chapter X: Land Use Recommendations



recreation. The proposed project is also considered to be consistent with the county's future short- and long-range plans for recreational trails⁵.

2.3 Social/Economic

2.3.1 Data Sources/Methodology

A profile of demographics and housing relied on a number of sources, most prominently the Summary Tape Files (STFs) of the U.S. Census of Population and Housing. Historical demographic data from the 1990, 1980, 1970 and 1960 Censuses supplemented the current demographic profile.

Economic profiles for Jo Daviess and Stephenson Counties were prepared using state and federal data sources. Resident employment data including labor force and unemployment rate were obtained from the Illinois Department of Employment Security. Data on employment and earnings by industry were derived from the U.S. Department of Commerce, Bureau of Economic Analysis. Census data were used to prepare geographical mobility and place of work and income characteristics, while the property tax tables for the project area were based on the data from the Illinois Department of Revenue.

Baseline information for existing land use was obtained from land use maps obtained from the Freeport Area Economic Development Foundation and Jo Daviess Development, Inc. as well as aerial photographs. Discussions with city and county planning department staff were conducted to supplement this information and to identify land development projects within the project area.

Zoning information was obtained from the Jo Daviess and Stephenson county zoning ordinances. Additional zoning information, including information about recent rezonings, was obtained through discussions with city and county planners.

Regional economic, demographic and housing profiles were prepared using historic and current government statistics. Data on Stephenson and Jo Daviess Counties were compared to larger geographic areas—Illinois and the U.S.—to identify unique attributes of each county and to judge each county's relative importance in the state's economic and population trends. Historic statistics were gathered for a number of demographic, housing and economic indicators in order to understand regional trends; where available, data projecting trends into the future were used to supplement current statistics.

Demographic and housing characteristics of the portions of Stephenson and Jo Daviess Counties—the project area—were compiled and compared to each other as well as larger geographic areas. Census data based on county subdivisions as well as selected towns and villages were aggregated to form the project area profile.

Economic profiles for the project area consist of employment, income, and fiscal characteristics. Employment characteristics were prepared either at a county or at a municipal level depending on the available data. Resident employment status was analyzed for both counties and compared to the State of Illinois to identify the economic progress in the project area. The economic structure in the project area was further studied using employment by industry for both counties. The data on location of employment were developed at the municipal level to describe the geographical mobility and place of work.

⁵ Melvin Gratton, Jo Daviess County Planning



Income characteristics were prepared by analyzing resident income status (median household income and per capita income) at a municipal level and earnings by industry at a county level. In both analyses, the data in the project area were compared with the State of Illinois to reflect the differences between the project area and the state. Fiscal characteristics were prepared using property tax data for both counties, and the municipalities in the project area.

Project area socioeconomic data are contained in Appendix L.

2.3.2 Social Characteristics

Jo Daviess County is predominantly rural in nature. Economically, the county has had three basic export industries, each of which reflects a different economic period in America. Mining, began during the first half of the 19th century, but little of this employment still exists in the project area. Agriculture has been the mainstay of the county's economy for over 100 years, with dairying and beef cattle production being the main focus. The third industry, manufacturing, emerged primarily after World War II, in the form of foundries and other similar facilities. The county's newest industry is recreation and tourism. According to U.S. Department of Commerce, Bureau of Economic Analysis employment by place of work figures, in 1997 approximately 26.3 percent of the county's workforce was employed in service industries, 17.3 percent worked in retail trade, 14.3 percent worked in manufacturing industries and 9.7 percent were employed in the farm sector.

Stephenson County is also predominantly rural. Established in 1837, early economic activity in the county consisted of agriculture and fur trading. Industry in the county is concentrated in the City of Freeport, the county seat, although many of the smaller communities also have some industrial operations. The leading industries in the county include agriculture, food manufacturing and processing (including milk and milk products), lumber and wood products and agricultural services. Agriculture is the county's major industry, largely because of the high percentage of productive soils, favorable climate and good transportation facilities. As reported by the Bureau of Economic Analysis employment by place of work figures, in 1997 approximately 25.4 percent of the county's workforce was employed in manufacturing industries, 22.9 percent worked in the service sector, 13.8 percent were employed in retail trade and 5.6 percent were employed in the farm sector. Incorporated communities located within the project area include the village of Lena and the city of Freeport. Lena is a small farm village that provides services to the immediate rural community, while Freeport is the retail and manufacturing hub of Stephenson County.

Incorporated communities located within the project area include the city of Galena and the villages of Elizabeth and Stockton. In the early 1800s, Galena became the lead mining center of the country, as well as a major river port and center for commerce. Many of the buildings of the day survive to the present, which has resulted in the city's designation as a National Historic District and being placed on the National Register of Historic Places. Elizabeth is the center of the county's agricultural economy, serving as a major distribution point for livestock feed, fertilizer, agricultural limestone and fuel. Also located in Elizabeth are the majority of the food, clothing, appliance and hardware facilities that are utilized by the county's farming community. Stockton is also an important farm community, albeit on a smaller scale than Elizabeth. Manufacturing is important to Stockton as it is the birthplace of the Kraft Company. Several roadside services, in the form of service stations, restaurants and motels are also located in Stockton.



2.3.2.1 Demographics

■ Population

Overall, the population in Jo Daviess and Stephenson Counties has not increased or decreased much in the forty years between 1960 and 2000. In contrast, the state of Illinois has experienced a 23 percent increase in population during the same time span. Population trends for Jo Daviess and Stephenson Counties and the municipalities, townships and other census designated places within the project area are depicted in Table 2-1.

In 1960, Jo Daviess County had a population of 21,821. This figure remained relatively stable through the 1960s, registering only a 0.3 percent decline to 21,766 in 1970. The decade of 1970 to 1980 was a period of growth for the county, where the population increased 8.1 percent to 23,520. This growth was negated by the 1980s, when population declined by 7.2 percent in 1990 back to its 1960 level of 21,821. The decade of 1990-2000 experienced a two percent growth in population for the county.

Jo Daviess County has an area of approximately 601 square miles (396,099 acres/153,856 hectares). The county has a population density of 36 people per square mile and ranks 54th out of Illinois's 102 counties in terms of total population with a two percent share of the state total. As shown in Table 2-1, in 2000, 15.5 percent of the county's population resided in Galena; 3.1 percent resided in the village of Elizabeth; and 8.6 percent resided in the village of Stockton. Nine county subdivisions in Jo Daviess County exist within the project area. In 2000 for the county, 5.4 percent resided in East Galena Township, 4.8 percent resided in Elizabeth Township, 4.1 percent resided in Guilford Township, 1.6 percent in Rawlins Township, 1.4 percent resided in Rice Township, 11.4 percent resided in Stockton Township, 1.3 percent resided in Wards Grove Township, 15.1 percent resided in West Galena Township and 3 percent resided in Woodbine Township.

Between 1960 and 2000, Galena experienced a steady decline in population, from 4,410 to 3,460 (21.5 percent). Between 1960 and 1980, the population of Elizabeth Village remained relatively stable, declining by only 1.7 percent during this period. However, from 1980 to 2000, Elizabeth Village experienced a decrease in population of over 8.0 percent. Between 1960 and 2000, the village of Stockton's population remained stable, increasing by only 126 persons (1.0 percent). Guilford Township has experienced significant growth between 1960 and 2000. Over this forty-year period, the township's population grew by 133.6 percent, the largest percentage of growth compared to the other municipalities.

Stephenson County has experienced a period of steady growth between 1960 and 2000 (see Table 2-1). In 1960, the county's population was 46,207 which increased to 48,861 in 1970 (5.7 percent) and 49,536 (1.4 percent) in 1980. After a slight decrease of 1,484 persons (3 percent) during the 1980s, the county's population rebounded in the 1990s. In 2000, the population increased by six percent. With an area of approximately 564 square miles (361,316 acres/144,384 hectares), the county has a density of 87 persons per square mile. In 2000, 5.9 percent of the county's residents were located in the village of Lena, while 53.9 percent resided in Freeport. Three county subdivisions in Stephenson County exist within the project area. In 2000, one percent resided in Erin Township, 4.9 percent resided in Harlem Township and 1.4 percent resided in Kent Township.

Lena experienced steady population growth between 1960 and 2000. From 1970 to 1980, Lena experienced its greatest gain, when it increased from 1,722 to 2,295 (33.3 percent). Conversely, Freeport has experienced a decline in population between 1970 and 1990, when the population



Table 2-1
Population Trends for Jo Daviess and Stephenson Counties

	1960	1970	1980	1990	2000	Percentage Change					
						1960-70	1970-80	1980-90	1990-2000	1960-90	1960-2000
ILLINOIS	10,081,000	11,110,000	11,427,000	11,430,602	12,419,293	10.2%	2.9%	0.0%	8.65%	13.4%	23.2%
Jo Daviess County	21,821	21,766	23,520	21,821	22,289	-0.3%	8.1%	-7.2%	2.14%	0.0%	2.1%
East Galena Township	1,185	1,078	1,070	1,063	1,192	-9.0%	-0.7%	-0.7%	12.14%	-10.3%	5.9%
Elizabeth Township	1,190	1,150	1,171	1,050	1,063	-3.4%	1.8%	-10.3%	1.24%	-11.8%	-9.4%
Village of Elizabeth	729	707	741	641	682	-3.0%	4.8%	-13.5%	6.40%	-12.1%	-6.4%
City of Galena	4,410	3,930	3,876	3,647	3,460	-10.9%	-1.4%	-5.9%	-5.13%	-17.3%	-21.5%
Guilford Township	392	334	369	411	916	-14.8%	10.5%	11.4%	122.87%	4.8%	133.6%
Rawlins Township	191	215	310	344	360	12.6%	44.2%	12.6%	3.15%	82.7%	88.5%
Rice Township	247	231	256	296	306	-6.5%	10.8%	15.6%	3.38%	19.8%	23.9%
Stockton Township	2,419	2,505	2,471	2,485	2,555	3.6%	-1.4%	0.6%	2.82%	2.7%	5.6%
Stockton Village	1,800	1,930	1,872	1,871	1,926	7.2%	-3.0%	-0.1%	2.94%	3.9%	7%
Wards Grove Township	278	277	299	282	280	-0.4%	7.9%	-5.7%	-0.71%	1.4%	1%
West Galena Township	3,826	3,451	3,505	3,362	3,364	-9.8%	1.6%	-4.1%	0.06%	-12.1%	-12.1%
Woodbine Township	688	659	673	661	577	-4.2%	2.1%	-1.8%	-12.71%	-3.9%	16.0%
Stephenson County	46,207	48,861	49,536	48,052	48,979	5.7%	1.4%	-3.0%	1.93%	4.0%	6.0%
Erin Township	501	513	524	482	405	2.4%	2.1%	-8.0%	-15.98%	-3.8%	-19.2%
Freeport City	26,628	27,736	26,266	25,840	26,443	4.2%	-5.3%	-1.6%	2.33%	-3.0%	-1.0%
Harlem Township	1,308	2,173	2,920	2,344	2,402	66.1%	34.4%	-19.7%	2.47%	79.2%	83.6%
Kent Township	768	741	799	763	701	-3.5%	7.8%	-4.5%	-8.13%	-0.7%	-8.7%
Lena Village	1,552	1,722	2,295	2,605	2,887	11.0%	33.3%	13.5%	10.83%	67.8%	86.1%

Note: Counties included only cities, villages and county subdivisions within the project area.

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2000</u>
Jo Daviess Co. Share of IL Pop.	0.2%	0.2%	0.2%	0.2%
Stephenson Co. Share of IL Pop.	0.44%	0.43%	0.4%	0.4%

Source: U.S. Census of Population and Housing

Note: Demographic statistics for various townships include data for certain cities and villages that are located within their geographic boundaries. Specifically, Elizabeth Township statistics include those for Elizabeth Village, Stockton Township includes Stockton Village, West Galena Township includes Galena City, and Harlem Township includes Freeport City. While statistics for Lena Village are included, Lena Village is just one portion of West Point Township. The majority of West Point Township is not included in the project area. Therefore, only data for Lena Village is included in this analysis.



declined by 6.8 percent. This twenty year trend has reversed itself during the 2000s, when the city's population rebounded by three percent to its 1960 level.

■ Race and Ethnicity

Both Jo Daviess and Stephenson County's population is predominantly white as presented in Table 2-2. According to 2000 Census figures, 98.7 percent of Jo Daviess County's population is white, with blacks or African-Americans, Native Americans, Asians and others comprising the remaining 1.3 percent. In addition, 1.5 percent (342 persons) are of Hispanic or Latino origin. In Elizabeth, 99.0 percent of the population is white, the remaining one percent is comprised of Native Americans, Asian and others with 0.1 percent reporting Hispanic or Latino origin. In Galena, 98.0 percent of residents are white, with the remaining comprised of blacks or African-Americans, Native Americans, Asians and others with 5.1 percent identified as being of Hispanic or Latino origin. Stockton has a 99.7 percent white population, with the remaining 0.3 percent Native American, Asian and other races with 0.4 percent of Stockton residents identifying themselves as being of Hispanic or Latino origin.

In Stephenson County, according to 2000 census figures, 89.3 percent of the population is white, 7.7 percent is black or African-American and the remaining 3.0 percent is comprised of Native Americans, Asians and other races. In addition, 1.5 percent (747 persons) are of Hispanic or Latino origin. For Freeport, 81.8 percent of the population is white, 13.8 percent is African-American and the remaining 4.4 percent Native American, Asian and other races, while 2.1 percent of Freeport residents are considered to be of Hispanic or Latino origin. For Lena, 98.6 percent of the population is white with the remaining 1.4 percent comprised of Native American, Asian and other races with 1.1 percent identifying themselves as being of Hispanic or Latino origin.

■ Age and Educational Characteristics

In 2000, the median age in Jo Daviess County was 41.6 years and 38.5 years in Stephenson County. Over half of the total population of Jo Daviess County (58.9 percent) and Stephenson County (58.4 percent) was between 18 and 64 years of age in 2000. The population percentage aged 65 and above was higher in both Jo Daviess County (17.9 percent) and Stephenson County (16.4 percent) than the state of Illinois (12.1 percent). Elizabeth Village in Jo Daviess County had the highest percentage of population age sixty-five and older, 32.3 percent, while Wards Grove Township and Rawlins Township, both also in Jo Daviess County, had the lowest at 11.1 percent. The age characteristics in the project area counties and municipalities are depicted in Table 2-3.

Census data from 2000 indicate that among those persons 25 years of age and older, approximately 7.0 percent of the population of Jo Daviess County and 5.3 percent of Stephenson County have less than a ninth-grade education. Approximately 42 percent of the Jo Daviess County population and 38 percent of Stephenson County population received a high school diploma (including equivalency), while 10.7 percent of Jo Daviess County's population and 10.6 percent of Stephenson County's population attained a Bachelor's degree.

In terms of educational attainment, both counties and their respective municipalities lag behind the state averages for college and graduate school graduates, while they exceed the state average for high school graduates. Residents of Elizabeth Township and the village of Elizabeth had lower educational attainment levels than the county: 15.5 percent of the population of the village of Elizabeth and 12.0 percent of Elizabeth Township had received less than a ninth grade education. Educational characteristics for Jo Daviess and Stephenson Counties and municipalities are presented in Appendix L as Table L-1.



**TABLE 2-2
2000 POPULATION BY RACE**

	Total Population	White		Black or African American		American Indian & Asian		Hispanic or Latino	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent
ILLINOIS	12,419,293	9,125,471	73.5%	1,876,875	15.1%	454,609	3.6%	1,530,262	12.3%
Jo Daviess County	22,289	21,991	98.7%	44	0.2%	80	0.4%	342	1.5%
Elizabeth Village	682	675	99.0%	1	0.1%	1	0.1%	1	0.1%
Galena City	3,460	3,393	98.0%	6	0.2%	14	0.4%	133	5.1%
Stockton Village	1,926	1,920	99.7%	0	0.0%	2	0.2%	8	0.4%
Stephenson County	48,979	43,733	89.3%	3,761	7.7%	408	0.9%	747	1.5%
Freeport City	26,443	21,623	81.8%	3,651	13.8%	308	3.4%	561	2.1%
Lena Village	2,887	2,846	98.6%	6	0.2%	4	1.2%	33	1.1%

Notes: 1) Data is current as of September 2002.
2) Hispanic or Latino can be of any race.

Source: 2000 Census of Population.



TABLE 2-3
DISTRIBUTION OF POPULATION BY AGE, 2000

	Total Population	Under 18		18-64		65 and Older	
		Number	Percent	Number	Percent	Number	Percent
ILLINOIS	12,419,293	2,946,366	25.8%	7,047,691	61.7%	1,436,545	12.6%
Jo Daviess County	22,289	5,162	23.2%	13,129	58.9%	3,998	17.9%
East Galena Township	1,192	284	23.8%	703	59.0%	205	17.2%
Elizabeth Township	1,063	227	21.4%	568	53.4%	268	25.2%
Elizabeth Village	682	119	17.4%	343	50.3%	220	32.3%
Galena City	3,460	646	18.7%	2,043	59.0%	771	22.3%
Guilford Township	916	140	15.3%	564	61.6%	212	23.1%
Rawlins Township	360	94	26.1%	226	62.8%	40	11.1%
Rice Township	306	54	17.6%	191	62.4%	61	20.0%
Stockton Township	2,555	610	23.9%	1,412	55.3%	533	20.8%
Stockton Village	1,926	445	23.1%	1,048	54.4%	433	22.5%
Wards Grove Township	280	86	30.7%	163	58.2%	31	11.1%
West Galena Township	3,364	665	19.8%	1,996	59.3%	703	20.9%
Woodbine Township	577	122	21.1%	327	56.7%	128	22.2%
Stephenson County	48,979	12,351	25.2%	28,602	58.4%	8,026	16.4%
Erin Township	405	115	28.4%	240	59.3%	50	12.3%
Freeport City	26,443	6,474	24.5%	15,188	57.4%	4,781	18.1%
Harlem Township	2,402	596	24.8%	1,518	63.2%	288	12.0%
Kent Township	701	175	25.0%	360	51.4%	166	23.6%
Lena Village	2,887	708	24.5%	1,519	52.6%	660	22.9%

Source: 2000 Census of Population and Housing.

Note: Demographic statistics for various townships include data for certain cities and villages that are located within their geographic boundaries. Specifically, Elizabeth Township statistics include those for Elizabeth Village, Stockton Township includes Stockton Village, West Galena Township includes Galena City, and Harlem Township includes Freeport City. While statistics for Lena Village are included, Lena Village is just one portion of West Point Township. The majority of West Point Township is not included in the project area. Therefore, only data for Lena Village is included in this analysis.



2.3.2.2 *Housing Characteristics*

According to the 2000 Census, there were 12,003 total housing units in Jo Daviess County. Of these, 23.2 percent were vacant, 59.3 percent were owner-occupied and 17.5 percent were renter-occupied. In Galena in 2000 there were 1,827 total housing units. Of these, 13 percent were vacant, 57.4 percent were owner-occupied and the remaining 29.6 percent were renter-occupied. In 2000, the village of Elizabeth had a total of 344 housing units, of which 10.5 percent were vacant, 63.8 percent were owner-occupied and 25.9 percent were renter-occupied. Of the 885 total units located in the village of Stockton in 2000, 6.5 percent were vacant, 69.3 percent were owner-occupied and the remaining 24.2 percent were renter-occupied.

Stephenson County had 21,713 total housing units in 2000. Of this figure, 8.9 percent were vacant, 68.1 percent were owner-occupied and the remaining 23.0 percent were renter-occupied. Of the 1,266 total units located in Lena in 2000, 8.1 percent were vacant, 70.3 percent were owner-occupied and 21.6 percent were renter-occupied. Compared to Lena, Freeport had a greater share of its housing as renter occupied rather than owner occupied. Of the 12,479 housing units in Freeport, 9.9 percent were vacant, 61.5 percent were owner-occupied and 28.6 percent were renter-occupied.

Consistent with the rural character of the project area, the predominant housing type is the single-family, detached dwelling unit. Multi-family dwellings of three units or more are also well represented throughout the project area and the percentage of mobile homes ranges from zero percent to almost 9 percent in the project area's municipalities. Most of the housing in each of the municipalities was constructed prior to 1959, with less than 10 percent being built after 1995.

With the exception of Guilford and Rice townships, the 2000 median value of owner-occupied housing in the project area is significantly lower, as compared with the state of Illinois average of \$127,800. The median value of owner-occupied housing was \$93,500 for Jo Daviess County and \$80,400 for Stephenson County. In Jo Daviess County, the highest median value of housing is in Guilford Township at \$211,500, due to the Galena Territory's luxury owner-occupied and second residences. Rice Township also exceeds the state average with a 2000 median value of \$155,800.

The 2000 housing characteristics of Jo Daviess and Stephenson Counties and their respective municipalities in the project area are presented in Appendix L as Tables L-2, L-3 and L-4.

2.3.3 Public Services and Facilities

2.3.3.1 *Public Safety and Medical Services*

Each city or village within the project area operates its own police and fire protection. For police services, unincorporated and rural areas are protected by the Jo Daviess or Stephenson County Sheriff's departments. For fire protection, fire districts are set up to incorporate rural and unincorporated areas in each county. These protection districts are staffed by full-time and volunteer firefighters. A substation of the Scales Mound Fire Department is located within the Galena Territory⁶ as well as a 24-hour security department. The Jo Daviess Sheriff's Department also provides law enforcement for the Galena Territory.

⁶ The Galena Territory is approximately 6,800 acres located within part of East Galena and Guilford Townships, consisting primarily of residential lots for second/vacation homes.



Within the project area in Jo Daviess County, the Galena-Strauss Hospital and Nursing Care Facility offers a 29-bed hospital and 60 long-term care beds. In the city of Galena, three doctors and four dentists have practices within town. For the project area in Stephenson County, sixty-eight doctors, thirty-four dentists and a 171-bed hospital, are located in Freeport. Freeport Memorial Hospital is a not-for-profit medical center serving Freeport, Stephenson County as well as several northern Illinois and southern Wisconsin counties. For the villages of Elizabeth, Stockton and Lena, between two to three doctors and one to two dentists practice in each community. Figures 2-1 and 2-2 depict the locations and jurisdictional boundaries of the medical, emergency protection services which serve the project area.

2.3.3.2 Educational Facilities

Public schools in Jo Daviess, Stephenson and Carroll Counties are operated under the jurisdiction of the Regional Office of Education. Each city or village within the project area has a public school district. A table depicting the school districts and locations is presented in Appendix L as Table L-5. The Galena Unit School District operates a primary school grades kindergarten through fourth, middle school, grades fifth through eighth and a high school. The Tri-State Christian School is also located in Galena. The River Ridge Community Unit School District has two elementary schools; one in the village of Elizabeth and one in the village of Hanover, a middle school which is located in Hanover and a high school which is located in Elizabeth. The Woodbine Christian School is also located in Elizabeth. The Stockton Community Unit School District operates an elementary school, a middle school and a high school. The Lena Winslow Community Unit School District has two elementary schools, one located in the village of Lena and one in Winslow with both the middle and high schools located in Lena. Lena also has one non-public school, Lena Baptist.

The Freeport School District operates nine schools, six schools grades kindergarten through fourth, one upper elementary for grades five and six, one junior high school for grades seven and eight and a high school. Freeport is also home to several parochial schools including; Aquin Junior-Senior Catholic High School, Christian Academy, Immanuel Evangelical Lutheran School, New Covenant Christian School and Tri-County Christian School.

Both counties have vocational schools that serve the area. These include the Jo Daviess-Carroll Area Vocational Center, located in Elizabeth and the Stephenson Area Vocational Technical Education System which is located in Freeport. The Regional Office of Education also operates the Northwest Special Education District School in the city of Freeport.

The Highland Community College, located in Freeport is the only college in the project area. This institution offers career and community education, vocational preparation and associates degree transfer programs in the arts and sciences. Figures 2-1 and 2-2 also depict the locations and jurisdictional boundaries of the educational facilities which serve the project area.

2.3.3.3 Parks and Recreational Facilities

Jo Daviess County thrives on local tourism with the city of Galena as the focal point. Several historic sites exist in the Galena area, including: the U.S. Grant Home state historic site, the Old Market House state historic site and the Galena/Jo Daviess County History Museum. Apple River Canyon State Park, located between Stockton and Warren Villages offers camping, fishing, picnic tables, hiking trails and playgrounds. In recent years, over 200,000 visitors visited in the park annually. Within the project area, the Tapley Woods Conservation Area surrounds U.S. Route 20 between Mitchell and Long Hollow Roads in Elizabeth Township. Numerous private groups also provide recreational areas and facilities within Jo Daviess County. The Eagle Ridge Inn and Resort provides a golf course, horseback riding, and cross-







country skiing facilities. The Galena and Stockton Atwood Golf Clubs are also located in Jo Daviess County within the project area.

Lake Le-Aqua-Na State Park is located in Stephenson County just three miles north of the village of Lena. The 289.4 hectare (715-acre) park with a 16.2 hectare (40-acre) lake offers hiking, horseback riding and cross-country skiing trails as well as boating, fishing, picnic areas and campgrounds. The village of Lena also has several parks including Dodd's Park, Jaycees Park and Lions Park offering playgrounds, picnic and shelter areas as well as ball fields.

Several large parks are located in the city of Freeport. The largest, Krape Park, offers over 100 acres containing a creek and waterfall, an old-fashion carousel, picnicking facilities, a duck pond, miniature golf course, tennis courts, a baseball diamond, nature trail, paddle boats, canoes and playgrounds. The Oakdale Nature Preserve offers 54 hectare (133 acres) of winding trails for hiking and cross-country skiing as well as a nature center and picnic areas. Read Park and Taylor Park offer picnic areas, shelters, playgrounds, baseball and softball diamonds, tennis courts and concession stands. A 23 hectare (57-acre) wetlands preserve is also located in Freeport for wildlife observation. Stephenson County has several private recreational facilities including the Park Hills Golf Course in the city of Freeport and the Lena Golf Course in the village of Lena.

2.3.4 Economic Characteristics

2.3.4.1 *Employment Characteristics*

■ Resident Employment Status

Labor force and unemployment rates are two important indicators of economic progress. Overall unemployment rates in the project area have been falling since mid 1980s, indicating a growing local economy which parallels the trend in the whole Midwest economy⁷. According to the Illinois Department of Employment Security, in 2000, the total labor force in Jo Daviess County was 13,201, of which 12,617 persons were employed. The unemployment rate for Jo Daviess County in 2000 was 4.4 percent. Compared to Jo Daviess County, Stephenson County had a larger labor force (employed and unemployed persons) of 24,927 of which the employed persons was 23,369 in 2000. Stephenson also had a higher unemployment rate of 6.3 percent which was also above the state average. Detailed employment data is presented in Appendix L as Tables L-6 and L-7.

Jo Daviess County had a nearly 13 percent decrease in labor force from 1980 to 1990, and then a 19.4 percent increase from 1990 to 2000, resulting in a 4.0 percent increase between 1980 and 2000. Compared to Jo Daviess County, Stephenson County experienced a steady decline in labor force during the two periods: a 2.5 percent decrease from 1980 to 1990 and a 0.6 percent decrease from 1990 to 2000. The labor force situation in the two counties between 1980 and 2000 was largely attributed to the population decline during the same period. In fact, from 1980 to 2000, total population dropped by 5.2 percent for Jo Daviess County and by 1.1 percent for Stephenson County.

Overall the unemployment rates for the two counties and the state had been steadily declining since the mid 1980s despite a small increase in the early 1990s. From 1980 to 2000, the unemployment rates fell from 8.8 to 4.4 percent for Jo Daviess County and from 7 to 6.3 percent for Stephenson County, compared to the decline from 8.3 to 4.4 percent for the State of Illinois.

⁷ See "Assessing the Midwest Economy: Looking Back for the Future," Federal Reserve Bank of Chicago, April 1997.



■ **Employment by Industry (Place of Work)**

The two counties' economy is further described in terms of employment by industry. The employment data from the Bureau of Economic Analysis show that Stephenson County has a larger economic base and a more urbanized economic structure than Jo Daviess County. In 1997, total employment in Jo Daviess County was 12,710. By looking at the percentage distribution by industry, service industries produced the most jobs among all industries in the county, at 26.3 percent, followed by retail trade (17.3 percent), and manufacturing industries (14.3 percent). Farm employment in Jo Daviess County accounted for a significant portion of total employment, at 9.7 percent.

Compared to Jo Daviess County, Stephenson County had a larger employment base and a slightly different employment structure. The total employment for Stephenson County in 1997 was 29,592, more than double that of Jo Daviess County. Manufacturing was still the largest industry which accounted for nearly 25.4 percent of total employment in the county. Service industries had the second largest share in employment, at 22.9 percent, followed by retail trade industries (13.8 percent). Moreover, Stephenson County had a smaller share of farm employment, at 5.6 percent.

Between 1980 and 1997, total employment in Jo Daviess County grew by over 40 percent, compared to only 2.3 percent for Stephenson County. However, in both counties, farm employment declined in both absolute numbers and in percentages of total employment. For Jo Daviess County, farm employment fell by over 32 percent from 1,820 in 1980 to 1,231 in 1997. Stephenson County had a similar decline in farm employment declining by over 35 percent from 2,547 in 1980 to 1,654 in 1997.

In Jo Daviess County, manufacturing employment increased significantly in absolute numbers by 25.1 percent but decreased marginally in the percentage of total employment from 16.1 percent in 1980 to 14.3 percent in 1997, while services employment more than doubled and retail trade employment nearly doubled in absolute numbers and increased in percentages of total employment (from 16.9 to 26.3 percent and from 12.6 to 17.3 percent, respectively). In addition, TCPU (transportation, communication, and public utilities) employment figures doubled in absolute numbers, and total employment increased from 3.1 to 5.8 percent.

In contrast to Jo Daviess County, from 1980 to 1997, manufacturing employment in Stephenson County declined in both absolute numbers 1,071 and as a percentage (from 30.8 to 25.4 percent) of total employment. However, services and retail trade employment in Stephenson County grew slower than Jo Daviess County, at 60.7 percent and 17.5 percent, respectively.

The changing economy in the project area demonstrates that manufacturing employment continued to grow in the more rural county like Jo Daviess, while in the more urbanized rural county of Stephenson, the shifting of the economy from manufacturing to a service and retail trade economy (a trend to most metropolitan areas) is evident.

■ **Location of Employment**

The differences in employment characteristics between the two counties are reflected in the geographical mobility and place of work for their resident workers. According to the Census data, in 2000, Jo Daviess County had 38.5 percent of its residents working outside the county, including 24.5 percent of its residents working outside the State of Illinois. This result reflects the relative scarcity of employment opportunities in Jo Daviess County. Within the county, the village of Stockton had the highest percentage, approximately 30 percent of its residents working outside Jo Daviess County.



Unlike Jo Daviess County, the majority of residents in Stephenson County (79.6 percent) were employed inside the county in 2000. In Freeport, 85.2 percent of its residents worked within the county, due to the large employment base in the general Freeport area.

Similar trends are seen for travel time to work patterns of the project area residents. Although most resident workers in the project area commuted less than 30 minutes, the number of workers traveling 30 or more minutes to work is not negligible. The number of workers traveling 30 or more minutes to work accounted for nearly 25 percent of total resident workers in Jo Daviess County, and over 21 percent of total resident workers in Stephenson County. In particular, the village of Stockton had over 32 percent of its resident workers commuting 30 or more minutes to work.

Tables which present employment by industry (place of work) and the geographical mobility of workers residing in the project area are presented in Appendix L as Tables L-8 and L-9.

2.3.4.2 *Income Characteristics*

■ Resident Income Status

Resident income levels in the project area are relatively low in comparison to the state average. The low income status in the project area is, to a large extent, related to the structure of the rural economies in both Jo Daviess and Stephenson Counties, which are characterized by low-earning industries which include services, retail trade, and farming, with relatively small shares of manufacturing (in Jo Daviess County) and other high-earning industries such as transportation, communication, and public utilities.

Median household income and per capita income are two important measures of wealth used in the Census data. In 1999, the median household income and per capita income for Jo Daviess County were \$40,411 and \$21,497 respectively, which were both below the state levels of \$46,590 and \$23,104 respectively. Within Jo Daviess County, the median household income for the three municipalities was lower than both the county and the state levels. For Stephenson County, the median household income and per capita income in 1999 were \$40,366 and \$19,794 respectively, which were lower than both the Jo Daviess County and the state levels.

Between 1989 and 1999, real median household income rose modestly in both Jo Daviess and Stephenson Counties and in the State of Illinois. Median household income increased for both Jo Daviess and Stephenson Counties by 10.0 percent and 4.2 percent respectively, compared to a 5.7 percent increase for the State of Illinois. Among the municipalities in Jo Daviess and Stephenson Counties, only Elizabeth experienced a decrease in median household income (5.7 percent), while Galena had the largest rise in median household income at 17.9 percent.

With respect to poverty, in the 2000 U.S. Census, 682 households in Jo Daviess County (7.4 percent) reported income below the poverty level (\$17,029 for a family of four), while in Stephenson County the figure was 1,807 households (9.1 percent).

During the same ten years, real per capita income showed consistent changes. The per capita income grew in both Jo Daviess and Stephenson Counties by 26.4 percent and 9.7 percent, respectively, compared to a 9.8 percent increase in the state as a whole. At the local municipal level, per capita income declined by 3.6 percent in the village of Elizabeth but increased by 25 percent in Galena.



■ Earnings by Industry (Place of Work)

The low resident income status in the project area is exhibited in earnings by industry using data from the Bureau of Economic Analysis. Earnings differ from money income in that they include both wage and salary disbursements and other labor income such as employee benefits. In 1995, the annual average earnings per worker in Jo Daviess County was \$16,940, well below the state level of \$31,463. However, during this same period, Stephenson County realized a higher but below-state-average earnings per worker, of \$25,095.

Based on the 1995 average earnings by industry, TCPU industries combined to form the highest earnings sector in both Jo Daviess County (\$32,254) and the state (\$44,276). In comparison, the highest earnings sector in Stephenson County is manufacturing (\$39,851). In 1995, in Stephenson County, farmers had the lowest earnings among all industries at \$5,640. In 1995, in Jo Daviess County, total agricultural cash receipts were less than total production expenses. It should be noted that the ranking results remained unchanged compared to those in 1989.

By comparing the average earnings per worker in each industry, it can be concluded that workers in the project area earned less than the state as a whole. In manufacturing for example, the average earnings per worker in 1995 was: \$28,825 for Jo Daviess County, \$39,851 for Stephenson County, and \$44,257 for the State of Illinois as a whole. The differences in earnings between the two counties and the state reflect the “gap” between rural areas like Jo Daviess and Stephenson Counties and the more urban areas in the state.

Tables which present data on household income, per capita income, and average earnings per worker by industry are presented in Appendix L as Tables L-10 and L-11.

2.3.4.3 Fiscal Characteristics

According to the 1997 property tax records from the Illinois Department of Revenue, the total equalized assessed value (EAV) for Jo Daviess County was \$383,606,501 and the total taxes extended for the county was \$2,824,051. In 1997, Stephenson County reported a total EAV and tax extension of \$455,968,748 and \$4,261,027 respectively. Table L-12 in Appendix L presents the property tax records for the project area in Jo Daviess and Stephenson Counties.

2.3.5 Land Use and Development Trends

2.3.5.1 Existing Land Use

Existing land use along the U.S. Route 20 project corridor is largely influenced by the region’s suitability for agriculture. Developed areas include residential sites, farm buildings, schools and industrial and commercial buildings. A handful of villages and towns are located within the vicinity of the project corridor. Typical land use in and near these population centers is predominantly residential lots surrounding a central commercial district. Between the towns and villages, agricultural land is dominant, with occasional isolated residential and commercial lots.

Currently, U.S. Route 20 is the principal highway connecting the cities of Rockford and Chicago to the east and the city of Dubuque, Iowa to the west. The largest land use patterns in the project area are agricultural and undeveloped lands. Existing land use patterns in the project area have also been largely influenced by topographic features. Although residential land use exists throughout the project area to varying degrees, areas of concentrated residential development are located near the developed centers along the U.S. Route 20 corridor, such as in the city of Galena, the Galena Territory and the villages of Elizabeth and Stockton.



According to the 1996 IDNR Land Cover Atlas, the largest land use in Jo Daviess County is grassland, which accounts for approximately 47 percent of the total acreage, making it the top-ranked county in total grassland acreage in Illinois. The second largest land use is cropland at 27 percent. Jo Daviess County also contains more than 84,000 acres (21 percent) of forest, woodland and wetlands compared with 15 percent total acreage for Illinois.

In Stephenson County the largest land use is cropland, which accounts for approximately 52 percent of the total acreage. The second largest land use is grassland, which accounts for 39 percent of the total acreage. Stephenson County is the second-ranked county in total grassland acreage in Illinois. According to the 1996 Illinois Land Cover Atlas, Stephenson County has over 1,600 acres of shallow marsh/wet meadow land. Table 2-4 presents the general land use patterns and their percent of total county area for Jo Daviess and Stephenson Counties.

The project area begins west of Galena near the junction of U.S. Route 20 and Illinois Route 84. Heading toward Galena from Dubuque, Iowa, U.S. Route 20 combines with Illinois Route 84 which runs from the Wisconsin border. Between the U.S. Route 20/Illinois Route 84 junction and the city of Galena, U.S. Route 20/Illinois Route 84 head southward, crossing Norris and Chetlain lanes. The Galena Golf View Estates lie to the east of the highway while agricultural fields and isolated pockets of woodland lie to the west. The Galena Industrial Park is located to the west of the highway at the Chetlain Lane intersection. U.S. Route 20/Illinois Route 84 continue through Galena, crossing over the Galena River and the Chicago Central Railroad line. To the north of Galena, the landscape is mostly woodland and hilly terrain. Primarily agricultural lands amidst a hilly terrain lie to the south of Galena.

To the east of Galena, U.S. Route 20/Illinois Route 84 passes through a small subdivision of housing surrounded by agricultural lands. Between Galena and Small Pox Creek, U.S. Route 20/Illinois Route 84 cross Mt. Hope Road, then head southward crossing Small Pox Creek. Past Small Pox Creek, U.S. Route 20/Illinois Route 84 runs south of the Galena Territory, crossing Glen Hollow Road, East Ridge Drive and Devil's Ladder Road.

Agricultural lands lie to the south of the highway opposite the Galena Territory. Past the Galena Territory, U.S. Route 20/Illinois Route 84 heads in a southerly direction crossing Tippet Road into the Tapley Woods Conservation Area which surrounds the highway. The Tapley Woods Conservation Area is a large wooded area mostly located on the northern side of Route 20/Illinois Route 84, extending from Tippet Road almost to South Rodden Road. Between South Rodden Road and the village of Elizabeth, a state rest area is located to the north of the highway offering rest rooms, an observation tower and picnic area. Just past the rest area, the highway crosses Headquarters Road just before U.S. Route 20/Illinois Route 84 split. At this point, Illinois Route 84 runs along the Mississippi River between Moline, Illinois and the Wisconsin border.

U.S. Route 20 crosses the intersection of Longhollow Road (north) and West Lone Street (south) just before crossing Apple River. Between the Apple River and the village of Elizabeth, U.S. Route 20 crosses the intersection of Eby's Mill/Elizabeth Hanover Road (south) and Elizabeth Scales Mound Road (north). The highway runs through the village of Elizabeth, crossing Becker, Derinda and Bethel roads just past the town. The land to the north and south of U.S. Route 20 in this area is primarily agricultural with pockets of woodlands and vacant land. Past Bethel Road, the highway turns northward toward Woodbine. Between Bethel Road and Woodbine, U.S. Route 20 crosses Read Road, Center Road and the Galena Oaks subdivision to the south of the highway as well as Krohmer Road to the north continuing through the middle of Woodbine. With the exception of Galena Oaks and Woodbine, the land surrounding U.S. Route 20 is primarily agricultural, with pockets of woodlands and undeveloped parcels.





Between Woodbine and Canyon Park Road, U.S. Route 20 crosses Evans Road and passes the Galena Ridge subdivision to the north and Valley View Estates to the south. U.S. Route 20 continues northward toward the village of Stockton crossing Hatton Road to the south and Logemann Road to the north, continuing on a straight path crossing Rush Creek just before the intersection of Canyon Road (north) and Massbach Road (south). Between Canyon Park Road and Stockton, U.S. Route 20 crosses the intersection of Mapes Road (north) and Golf Road (south). The land surrounding the highway in this area is primarily agricultural. U.S. Route 20 flanks the northern border of the village of Stockton. Toward the middle of Stockton, U.S. Route 20 intersects and merges with Illinois Route 78. Illinois Route 78 runs between Peoria, Illinois north through Wisconsin. Just outside the village of Stockton, the highway passes a cemetery to the south as well as agricultural fields near the intersection where U.S. Route 20 and Illinois Route 78 split.

Between the U.S. Route 20/Illinois Route 78 intersection and the Jo Daviess/Stephenson County line, agriculture land is the predominant use around U.S. Route 20. U.S. Route 20 crosses Curtiss Road to the south and the intersection of Willow Road (south) and Tiger Whip Road (north). Between the County line and the village of Lena, the U.S. Route 20 crosses Yellow Creek, Sunnyside Road, the intersection of Waddams Grove Road (north) and Kent Road (south), Crossroads Road and North Five Corners Road.

U.S. Route 20 passes below the village of Lena crossing Illinois Route 73 and Rees Road. Just past Rees Road, U.S. Route 20 dips southward passing Wagner Road, paralleling the Chicago Central Railroad line which runs through the village of Lena. Past the railroad/Wagner Road intersection, U.S. Route 20 heads southward toward Eleroy paralleling the railroad and crossing Dameier, Salem and Mound Roads. Past Eleroy U.S. Route 20 crosses Rick Road, Flansburg Road as well as the railroad. Past the railroad, the highway crosses Bolton Road and then splits before entering Freeport to a business route and a bypass route. The business route crosses the city, while the U.S. Route 20 bypass flanks its northern boundary. With a population of approximately 26,400, Freeport is the largest urbanized district within the project area.

2.3.5.2 Proposed Land Use

The comprehensive plans for Jo Daviess and Stephenson Counties have recently undergone revisions. The previous Jo Daviess Comprehensive Plan was prepared in 1970, while the previous Stephenson County Comprehensive Plan was prepared in 1980. In July 2000, Stephenson County revised its Future Land Use Plan, while Jo Daviess revised its Future Land Use Plan on September 14, 1999. Of the individual communities within the project area, only the city of Galena prepared a comprehensive plan. The Comprehensive Plan of Galena was prepared in 1991. This plan encouraged the restoration and residential reuse of structures within the historic residential neighborhood as well as new residential development on existing platted and serviced lots before new residential subdivisions. The city expects a new plan to be completed in early 2003. The city of Freeport has not updated its current comprehensive plan. However, according to local planning officials, the latest Freeport Comprehensive Plan is considered to be consistent with the goals and objectives of the latest Stephenson County Comprehensive Plan.

Population projections through the year 2020 for Jo Daviess County (Table 2-5) show only a two percent overall change in population. Although the population is not expected to increase significantly, Jo Daviess County has been experiencing a significant increase in residential development catering to the second home buyer, see Table 2-6. The second/vacation home buyer often constructs larger, higher-priced homes increasingly in the unincorporated areas. This has subsequently caused an increase in housing costs throughout the county. Although the increase in property value throughout the county could be a windfall for those residents





TABLE 2-6
NUMBER OF HOUSING UNITS, JO DAVIESS COUNTY

Year	Population	No. of Housing Units
1970	21,766	7,447
1980	23,520	9,676
1990	21,821	10,757

Source: 1996, Jo Daviess County Housing Study

interested in selling, for the residents on a limited income finding affordable housing may become increasingly difficult. According to the 1996 Jo Daviess County Housing Study, "since 1990, housing costs have risen dramatically, while income levels have remained at essentially the same level."

The unincorporated area of Jo Daviess County is divided into the following seven zoning districts: general agricultural, conservation, rural residential, planned residential, planned mobile home park, planned commercial and industrial district. For much of the county, agricultural zoning is predominant especially along the eastern section of the project area. Residential zoning exists between Elizabeth and Galena including the Galena Territory. Established in 1973, the Galena Territory is approximately 2,752 hectares (6,800 acres) in size, with 3,270 lots serving primarily second home buyers. Currently, about 56 percent of the lots have housing, in a mix of townhouses, condominiums and detached single-family units. Of these, approximately 300 are occupied year-round and approximately 500 are short-term rentals, with the balance used as second or vacation homes. The Territory's anticipated build-out, which is expected in 10 to 15 years, is 2,600 homes. The Territory is part vacation resort and part housing development.

The vacation resort operates an inn, restaurant, indoor pool, golf and game room. The housing development is operated by the Galena Territory Property Owners Association which also operates an outdoor pool, gymnasium, social hall, three playgrounds, marina and riding center. Currently, the Property Owners Association is studying the addition of a senior living campus located to the southeast of the Territory border, north of U.S. Route 20.

For Stephenson County, the overall increase in population through the year 2020 is projected to be approximately one percent. Unlike Jo Daviess County, Stephenson County does not have a significant second home market. Therefore, according to the county, little land use change is expected throughout the county. Stephenson County is organized into sixteen districts within the five broad categories of agricultural, residence, business, manufacturing, and tourist districts. For much of the county, agricultural land predominates although much of the land throughout the county is considered flood plain. Most residential zoning within the project area is located within Freeport and Lena.

2.4 Agriculture

The farming and dairy industries in Jo Daviess and Stephenson Counties are an important economic force as well as an important life-style. The soils and topography along the corridor range from good to ideal for an agricultural environment. Farmland comprises about 72 percent



of all land in Jo Daviess County and about 85 percent in Stephenson County. Of the farm area in Jo Daviess and Stephenson Counties, about 68 percent (49 percent of the total land) and 90 percent (76.5 percent of the total land) is cropland, respectively. Cropland through the project area is primarily corn and soybeans. Row crops are found throughout the entire corridor with the majority between Elizabeth and Freeport, and are represented on aerial mapping found in the Agricultural Resources Technical Report and Appendix O (Land Cover Maps). Table 2-7 summarizes the latest available agricultural statistics.

Within the project area over 54 percent of the land is agricultural, while an additional 26 percent of the land is considered as scattered agricultural land (pasture and hayfields). Urban developed land that has little or no agricultural uses account for nearly four percent of the project area land.

2.4.1 Prime and Important Farmland

As stated in *Prime Farmlands, Important Farmlands*, published by the United States Department of Agriculture, Soil Conservation Service, agricultural lands are divided into two principal categories: prime farmland and additional farmland of statewide importance (important farmland). These categories, along with other farmland, were the only categories considered.

Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It must also be available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding. Important farmland is land other than prime farmland that is valuable for the production of food, feed, fiber, forage, and oilseed crops.

2.4.2 Soil Capability Groupings

In general, soil capability groups show their suitability for most kinds of farming. According to the USDA, it is a practical classification based on the limitations of the soils, the risks of damage when they are used for ordinary field crops or seeded pastures, and the way they respond to treatment.

Eight capability classes are used to describe the general suitability of soils for most kinds of field crops. These capability classes are as follows:

- Class I** - soils that have limitations that restrict their use.
- Class II** - soils have some limitations that reduce the choice of plants or require moderate conservation practices.
- Class III** - soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
- Class IV** - soils have very severe limitations that restrict the choice of plants, require very careful management, or both.
- Class V** - soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, woodland, or wildlife food and cover.



**TABLE 2-7
AGRICULTURAL STATISTICS**

CATEGORY	JO DAVIESS CO.		STEPHENSON CO.	
	2000 ¹	1997 ²	2000 ¹	1997 ²
Total Number of Farms		941		1,081
Total Hectares (Acres) in Farms		111,591 (275,750)		124,876 (308,574)
Average Size of Farms in Hectares (Acres)		119 (293)		115 (285)
Average Value per Hectare (Acre) of Farm (\$)		566 (1,399)		800 (1,978)
Average Production Expense per Farm (\$)		61,009		96,705
Average Net Cash Return per Farm (\$)		18,952		29,908
Total Cropland (hectares [acres])		76,307 (188,559)		112,162 (277,159)
Harvested Cropland (hectares [acres])	65,683 (162,300)	63,611 (157,187)	106,193 (262,400)	103,734 (256,332)
Corn Harvested (hectares [acres])	31,000 (76,600)	30,184 (74,585)	59,289 (146,500)	58,629 (144,876)
Soybeans Harvested (hectares [acres])	15,338 (37,900)	8,466 (20,921)	32,093 (79,300)	10,473 (25,879)
Wheat Harvested (hectares [acres])	N/A	74 (184)	486 (1,200)	565 (1,397)
All Other Crops (hectares [acres])	19,345 (47,800)	24,888 (61,498)	14,326 (35,400)	20,713 (51,180)
Cropland Used for Pasture or Grazing (hectares [acres])		11,132 (27,506)		6,308 (15,586)
Crop Cash Receipts – All Crops (1,000 dollars)	26,970		50,877	
Corn (1,000 dollars)	14,150		29,927	
Soybeans (1,000 dollars)	5,051		14,512	
Wheat (1,000 dollars)	21		156	
All Other Crops (1,000 dollars)	7,748		6,282	
Cropland in Cover Crops, Legumes, and Soil Improvement Grasses, not Harvested nor Pastured (hectares [acres])		2,672 (6,603)		1,282 (3,167)
Idle Cropland (hectares [acres])		3,201 (7,910)		1,913 (4,727)
Cropland in Cultivated Summer Fallow (hectares [acres])		(D)		118 (291)
Total Woodland (hectares [acres])		13,398 (33,106)		4,033 (9,965)
Woodland Pastured (hectares [acres])		7,088 (17,516)		1,367 (3,378)
Woodland not Pastured (hectares [acres])		6,309 (15,590)		2,666 (6,587)
Other Land (hectares [acres])		21,887 (54,085)		8,681 (21,450)
Pastureland and Rangeland Other Than Cropland and Woodland Pastured (hectares [acres])		16,037 (39,627)		3,929 (9,708)
Land in House Lots, Ponds, Roads, Wastelands, etc. (hectares [acres])		5,851 (14,458)		4,782 (11,742)
Pastureland, All Types (hectares [acres])		34,256 (84,649)		11,603 (28,672)
Cropland Placed Under the Conservation Reserve Program Or Wetland Reserve Program (hectares [acres])		7,481 (18,485)		3,294 (8,139)
Livestock Cash Receipts (1,000 dollars)	42,227		66,067	
All Cattle (number of head)	68,200		62,800	
Hogs and Pigs Inventory (number of head)	23,100	34,615	97,100	101,832
Milk Cows (number of head)	8,700	11,699	14,700	18,386
Sheep and Lambs Inventory (number of head)	<1,600	1,372	2,000	2,432
TOTAL HECTARES (ACRES) IN COUNTY		155,716 (384,768)		146,158 (361,152)

(D) - Withheld to avoid disclosing data for individual farms. N/A - Not available.

SOURCE: ¹Illinois Agricultural Statistics - 2001 and ²1997 Census of Agriculture

- Class VI** - soils have severe limitations that make them generally unsuited to cultivation without major reclamation and limit their use largely to pasture, woodland, or wildlife food and cover.
- Class VII** - soils have very severe limitations that make them unsuited to cultivation without major reclamation and limit their use largely to pasture, woodland, or wildlife food and cover.
- Class VIII** - soils and landforms have limitations that preclude their use for commercial plant production without major reclamation and restrict their use to recreation, wildlife, water supply, or aesthetic purposes.

Soils that fall into Classes I and II are generally considered prime farmland. There are some soils within Classes I and II that are not considered prime farmland. There are also some soils that are considered prime farmland and are not within Classes I or II.

2.4.3 Conservation Reserve Program

The Food Security Act of 1985, as amended, authorizes the Conservation Reserve Program (CRP). This program was established to prevent or control loss of important agricultural soils through erosion, principally by elimination of cultivation. CRP is a voluntary program designed to take millions of highly erodible acres out of production and reduce erosion losses significantly in Illinois and across the country. The CRP will also help reduce excess production of some agricultural commodities by retiring some agricultural lands, and in the process, improve water quality and wildlife habitats. Reduction of erosion and sedimentation is achieved by implementation of various best management practices, which range from vegetative cover to manmade physical enhancement, such as terrace, etc., or a variety of structural measures.

2.4.4 Agricultural Protection Areas

The Agricultural Areas Conservation and Protection Act was enacted in 1980. This act allows for parcels of land greater than 202 hectares (500 acres) in size to be designated as agricultural protection areas. The agricultural protection area designation is established for a 10-year period, after which it may be subjected to review. There are no designated agricultural protection areas within proposed U.S. Route 20 right of way.

2.4.5 Centennial and Sesquicentennial Farm Programs

The Centennial and Sesquicentennial Farms programs honors generations of farmers who have worked to maintain family farms in Illinois. To qualify for Centennial Farm status, the same family of lineal or collateral descendants must have owned an agricultural property for at least 100 years. For Sesquicentennial Farm status, the same family of lineal or collateral descendants must have owned an agricultural property for at least 150 years. A lineal descendant is a person in the direct line of descent, such as a child or a grandchild. A collateral descendant is not a direct descendent, but is otherwise closely related, such as a brother, sister, uncle, aunt, nephew, niece or cousin. There are three farms in the project area that qualify as Centennial Farms and no farms that qualify as Sesquicentennial Farms.

2.4.6 Coordination

The Farmland Protection Act of 1981 provides for the protection of farmland meeting the U.S. Department of Agriculture's (USDA) definition of prime farmland. It excludes land already in or



“committed” to urban development or water storage and excludes all farmland within the official 2.4-kilometer (1.5-mile) planning area of an incorporated municipality. To be an “official” planning area, the incorporated municipality must have an adopted comprehensive plan on file with the Municipal Clerk. Only Galena and Freeport, of the affected municipalities within the project area, meet this condition.

Coordination with the Illinois Department of Agriculture and the Natural Resources Conservation Service (NRCS) is required because most of the project is not within one and one half miles of the incorporated boundaries of Galena, Elizabeth, Woodbine, Stockton, Lena, Eleroy, and Freeport.

2.5 Cultural Resources

Pursuant to the National Historic Preservation Act of 1966, as amended, cultural resources studies have been conducted in the U.S. Route 20 corridors. These studies, carried out with the cooperation of the Illinois State Historic Preservation Officer (SHPO), have been designed to identify the types of cultural resources present in the project area and to produce data which will allow a determination of eligibility in terms of National Register of Historic Places criteria and to aid in the formulation of mitigation measures if, and when, appropriate. Pedestrian archaeological and architectural surveys have been undertaken by professional personnel from the University of Illinois – Urbana/Champaign under contract to the Illinois Department of Transportation in the project area. Results of these studies have been reviewed by Illinois SHPO staff and their recommendations have been applied to the findings outlined below. Consultation has been initiated with all federally recognized Native American tribes which have Judicially Established Treaty Claims with the U.S. Claims Commission in Stephenson and/or Jo Daviess Counties. Tribes which were sent copies of a summary report of archaeological surveys in the project area for their review and comment are the Ho-Chunk Nation of Wisconsin, the Winnebago Tribe of Nebraska, the Sac and Fox Tribe of the Mississippi in Iowa, the Sac and Fox Nation of Missouri, and the Sac and Fox Nation of Oklahoma. All correspondence relating to tribal coordination is included in Appendix E.

The Illinois SHPO, in cooperation with the Illinois State Museum, has established criteria for the recognition of high probability zones for archaeological sites based upon such variables as distance from streams, stream size, and the association of particular soil types (this system has been codified in 20 ILCS 3420/4j and is applied to all cultural resources surveys statewide). These data have been digitized in a geographical information system (GIS) format and served as the basis for on-ground survey. Over 1,618.7 hectares (4,000 acres) of the project area have been surveyed to date (this excludes areas which were disturbed, wetlands, and properties where access was denied). Surveys were conducted in all high probability areas and a total survey was completed in the project area from Freeport to Stockton. The initial survey for the project was designed to locate burial mounds in the high-probability areas surrounding the Galena River and Apple River localities. The locations of several prehistoric mounds were recorded and forwarded to design engineers so that they could be avoided during the planning for the alternate alignments.

The project area, which can be divided into two environmental zones, a glaciated till plain on the east and an unglaciated dissected upland on the west, has yielded evidence of settlement during the Early Holocene beginning some 10,000 years ago. During this time, the project area was blanketed by a temperate forest consisting largely of elm, ash, oak, and hickory. During this period, mobile residential campsites of these hunter/gatherers established on high ground near streams and hunting stations were used in areas near wetlands and in marginal zones near stream divides. As the climate became warmer and more arid beginning 8,000 years ago, prairies expanded as forested areas declined. It was after this Middle Holocene period that the



project area became divided into open prairies encircling western hill forests bordering the Mississippi River. Prehistoric settlement of Late Holocene (modern climates and vegetation - post 5,000 BP) Illinois upland prairies, like those found in the project area, were used by small, mobile work parties in hunting and gathering activities. Villages and large residential base camps were established in the Mississippi Valley and along the lower reaches of the Galena and Apple rivers.

Of the 222 archaeological sites which have so far been recorded in the project area, 77 percent are isolated finds of prehistoric stone tools and prehistoric lithic scatters confined to the disturbed plow zone. Historic period archaeological sites recorded include abandoned lead mines, the remains of 19th Century farmsteads, and a 19th Century pottery works. Hundreds of pits and tailings piles have been found in unglaciated uplands around Galena and underscore the early importance of lead mining in this area of northwestern Illinois.

Lead mining and farming were the major economic activities of 19th Century Euro-American settlers in the project area. The standing architecture recorded in the project corridor is generally related to agriculture, since lead mining was largely abandoned in the region after the Civil War, and most buildings directly associated with mining have long been abandoned and demolished. Some 300 historic period standing structures in the project area have been photographed, and initial determinations concerning National Register eligibility have been made by professional architectural historians so that properties which are potentially significant can be avoided during project planning (as depicted on the exhibits and in Appendix N). Three historic buildings currently listed on the National Register are located in the project area. These properties, all situated between Freeport and Lena, consist of examples of a particular architectural type of round barn which dates to the late 19th Century. Two historic period Euro-American cemeteries also have been recorded in the project area.

2.6 Air Quality

The National Ambient Air Quality Standards (NAAQS), established by the U.S. Environmental Protection Agency (USEPA), set maximum allowable concentration limits for six criteria air pollutants. Areas in which air pollution levels persistently exceed the NAAQS may be designated as “non-attainment”. States in which a non-attainment area is located must develop and implement a State Implementation Plan (SIP) containing policies and regulations that will bring about attainment of the NAAQS.

All areas of Illinois currently are in attainment of the standards for four of the six criteria pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide and lead. Chicago and Metro-East St. Louis are classified as non-attainment for the one-hour ozone standard. In addition, the counties of Cook, DuPage, Kane, Lake, McHenry, and Will, the Townships of Aux Sable and Goose Lake (Grundy County) and Oswego Township (Kendall County) have been classified as a severe ozone non-attainment area. The Cities of Lake Calumet and McCook (Cook County) have been designated as non-attainment for the particulate matter (PM₁₀) standard. The sources of particulate matter that prompted the non-attainment classification are unrelated to transportation. All other areas of Illinois currently are in attainment for the ozone and PM₁₀ standards. No portion of this project is located within a designated non-attainment area.

